

APPENDIX A - TERRAIN FLIGHT OPERATIONS

A.1 - PURPOSE

To establish policies and procedures for conducting daytime terrain flight operations while performing navigation training. Also identify normal training areas for terrain flight.

A.2 - OBJECTIVE

The objective of this training is to ensure all designated aviators maintain proficiency in daytime terrain flight maneuvers.

A.3 - REFERENCES

Terrain flight training will be conducted IAW AR/NGR/CA NGR 95-1, TC 1-201 Tactical Flight Procedures, the appropriate ATM, and other applicable regulations.

A.4 - TRAINING AREAS

A.4.1 - CLEVELAND NATIONAL FOREST:

The Cleveland National Forest lies approximately 40 nautical miles east of Los Alamitos Army Airfield. This terrain flight area lies wholly within the Cleveland National Forest. The elevation of the training area varies from approx 400 feet MSL up to 5,000 feet MSL. It is bounded on the northwest by the MAL Sites, the northeast and southwest by the boundaries of the national forest, and to the southeast by the boundary between the national forest and Camp Pendleton. The terrain flight area has pre-plotted routes approximately 25 km long. The area has several open areas, but no landing is authorized in the national forest. This training area is used extensively by AASF Los Alamitos for both daytime and NVG flight training. Caution should be exercised due to Marine Corps traffic that may cross the area enroute the MALS (See below).

A.4.2 - THE MOUNTAIN AREA LANDING SITES (MALS):

MALS lie approx 20 miles to the east of Los Alamitos Army Airfield. A description of the sites can be found in the Area Planning 1 of the Flight Information Publications (TBP for NFG, Camp Pendleton). Advisory control of the MAL Sites is provided on common frequency 305.9 or 123.025. All aircrews must comply with any procedures or restrictions listed in the FLIP (TBP). Pictures of the sites are located in Flight Planning Room. The MAL Sites are used for confined area and pinnacle operations as well as terrain flight under day, night, and NVG conditions.

A.5 - CONDUCT OF TRAINING:

1. Tactical flight training will be conducted IAW the following unless permission to deviate is granted by the Facility Commander or his/her designated representative:

- A. All tactical training will be conducted with only authorized crew members at the aircraft controls.
- B. A maximum crew of five may consist of the following when conducting tactical training:
 - 1. Pilot and co-pilot
 - 2. Crew chief and/or medic
 - 3. SP/IP or enlisted instructor, flying as instructor

2. The PC will indicate on the flight plan all tactical areas, including the NOE course he/she plans to use during the training flight. Areas should be listed in the same sequence of use.
3. The pilot and co-pilot of all training flights that do not have an IP/SP on board, which are planned for the MAL area, will be mountain qualified.
4. The PC will contact Facility Operations on assigned FM or UHF Operations frequencies prior to departing the Airfield and upon returning to the Airfield. All aircraft operating in the tactical training area will monitor appropriate frequencies. Prior to making an approach or takeoff, into or from a landing site, the pilot will notify the safety aircraft or make a blind call on FM/UHF radio to alert other aircraft in the area of his intentions.
5. Practice autorotations will not be performed in the tactical training areas. Simulated engine failures at altitude, using power recoveries, over the tactical areas are authorized, providing power recovery calls are made to Operations, ATC, or another aircraft.
6. The on-board IP will have access to the controls at all times.
7. Tactical training will not be conducted after dark unless under the direct supervision of the Facility or unit and IAW the Night SOP. All aircraft will depart the tactical training area at official sunset unless approved for night tactical training.

A.5.1 - NIGHT TACTICAL OPERATION:

See NIGHT OPERATIONS APPENDIX

A.5.2 - WIRE STRIKE AVOIDANCE PROGRAM

1. All aircraft are to be flown in compliance with NGR 95-1, Minimum Safe Altitudes.
2. All flights into a tactical training area will be made IAW the following:
 - A. Will be properly cleared for flight by an appropriate authority.
 - B. Low level routes and tactical sites will not be used until a reconnaissance for wires is completed.
 - C. Tactical operations that require flight into a low angled sun will not be conducted.
 - D. Aircraft with crazed wind screens will not be used for tactical operations.
 - E. Until properly surveyed, any area used for operations below five hundred feet AGL will be assumed to have wire crossing all flight routes.
 - F. Personnel who detect uncharted wire or wire construction will notify all other aircraft in the area and report their location to Facility Operations.
 - G. Only aircraft equipped with fully functional wire strike protection systems (WSPS) will be used for terrain flight.

A.6 - SAFETY:

Terrain flying is a crew activity conducted by at least two qualified aviators. A good safety program must be adhered to due to the critical flight environment in which terrain flying is conducted. A realistic and effective training environment may be developed without sacrificing safety by reconnaissance and thorough planning. The following safety precautions must be taken to make this training as safe as possible and to boost the aviators' confidence.

A.6.1 - INSTRUCTOR PILOT (IP)/STANDARDIZATION INSTRUCTOR PILOT (SP) NOE TRAINING.

1. Each IP/SP must be given instructions on flight techniques, method of instruction (MOI) and hazards of terrain training.
2. IP/SP qualification will be IAW the ATM.
3. The IP/SP must know his/her location at all times while conducting terrain flight.

4. All IP/SPs will plot any new or unplotted hazards found during training.

A.6.2 - TERRAIN FLIGHT AVIATOR TRAINING.

1. Each aviator must be given instruction on flight techniques, emergency procedures, and hazards of terrain flight.
2. Aviator qualification will be IAW the ATM.
3. The aviator must demonstrate ability to satisfactorily plan and fly a terrain flight mission upon course completion.
4. All aviators will plot any new or unplotted hazards found during training.

A.6.3 - AIRCRAFT REQUIREMENTS.

1. Aircraft used for terrain flight should have a clean windshield free from scratches.
2. Maintenance personnel will be briefed on special requirements to be completed. The requirements are:
 - (1) Windshields cleaned before each flight.
 - (2) Blades inspected at beginning of flight, at each refueling stop, and at completion of flight.
 - (3) During each daily inspection special attention will be paid to the tailboom, tail rotor blades, and crew restraint system.
 - (4) Aircraft must have two operational communication radio sets for terrain flight.

A.7 - FLIGHT CLOTHING/EQUIPMENT:

The Nomex flight suit will be worn with the collar turned up. The flight helmet will have either the clear or shaded visor and will be down during flight. Each individual on board the aircraft will wear a survival vest and one PRC-90 survival radio will be in the possession of the flight crew member.